



Severe Weather Awareness Week



April 30th to May 6th, 2017

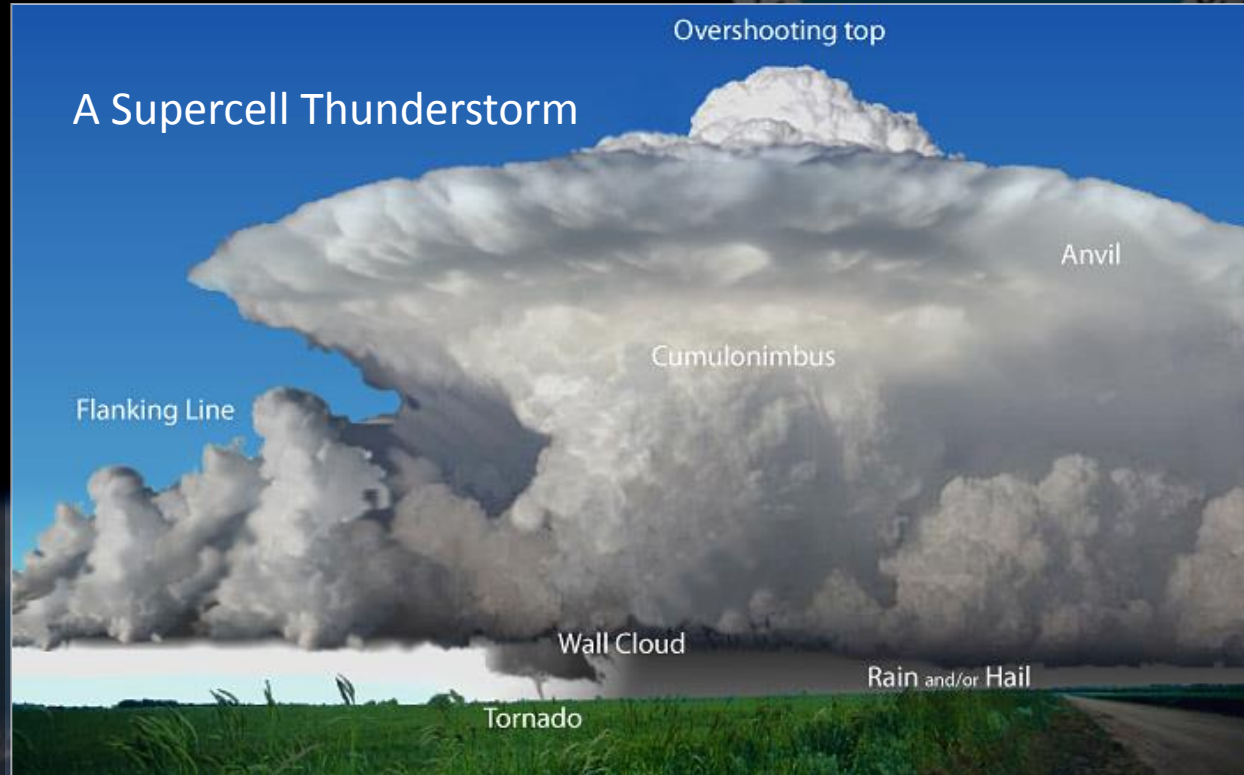
Tornadoes

Kat Hawley
NOAA's National Weather Service
Binghamton NY

Tornado

A tornado is a violently rotating column of air attached to a thunderstorm base and is in contact with the ground

- Tornadoes typically form from organized thunderstorms called supercells
- However, tornadoes can form within a line of storms.
- Tornadoes usually follow after the development of a wall cloud.
- A visible (condensation) funnel does not have to touch the ground to be a tornado.



Tornado

Tornadoes come in all shapes and sizes.

Tornadoes form all over the country and all times of the year.

Tornadoes can cause billions of dollars in damages.



Photo: Andrew Arnold



J.R. Hehnly - OKstorms.com



Hopkins Cty, KY F4 tornado by Leonard Costanzo

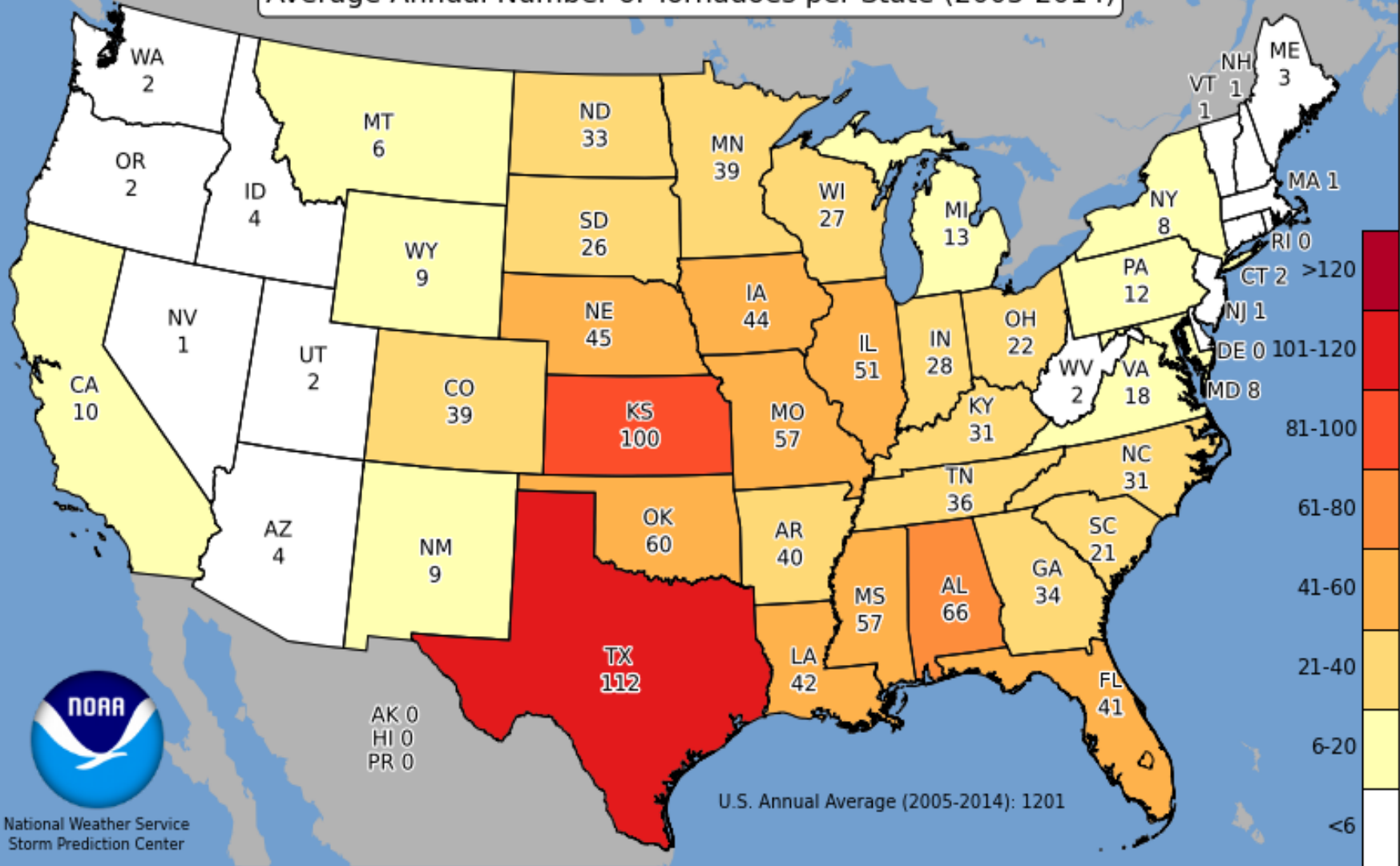


**Credit: Mary Cornish
Near Reading Center
North of Watkins Glen, NY
7/13/14 ~ 4:45 PM**



Tornado

Average Annual Number of Tornadoes per State (2005-2014)



National Weather Service
Storm Prediction Center

Tornado

There are 3 stages of a tornado

Stage 1 Developing

- A wall cloud forms
- Rotations increases
- Rear Flank Downdraft (RFD) develops (the lower clouds clear out)

Stage 2 Mature

- This is when the tornado is the strongest
- A funnel is most likely visible
- The RFD continues (a horseshoe-shaped clearing)

Stage 3 Dissipation

- The inflow to the storm is cut off
- The tornado shrinks and tilts
- Eventually dissipates



Tornado

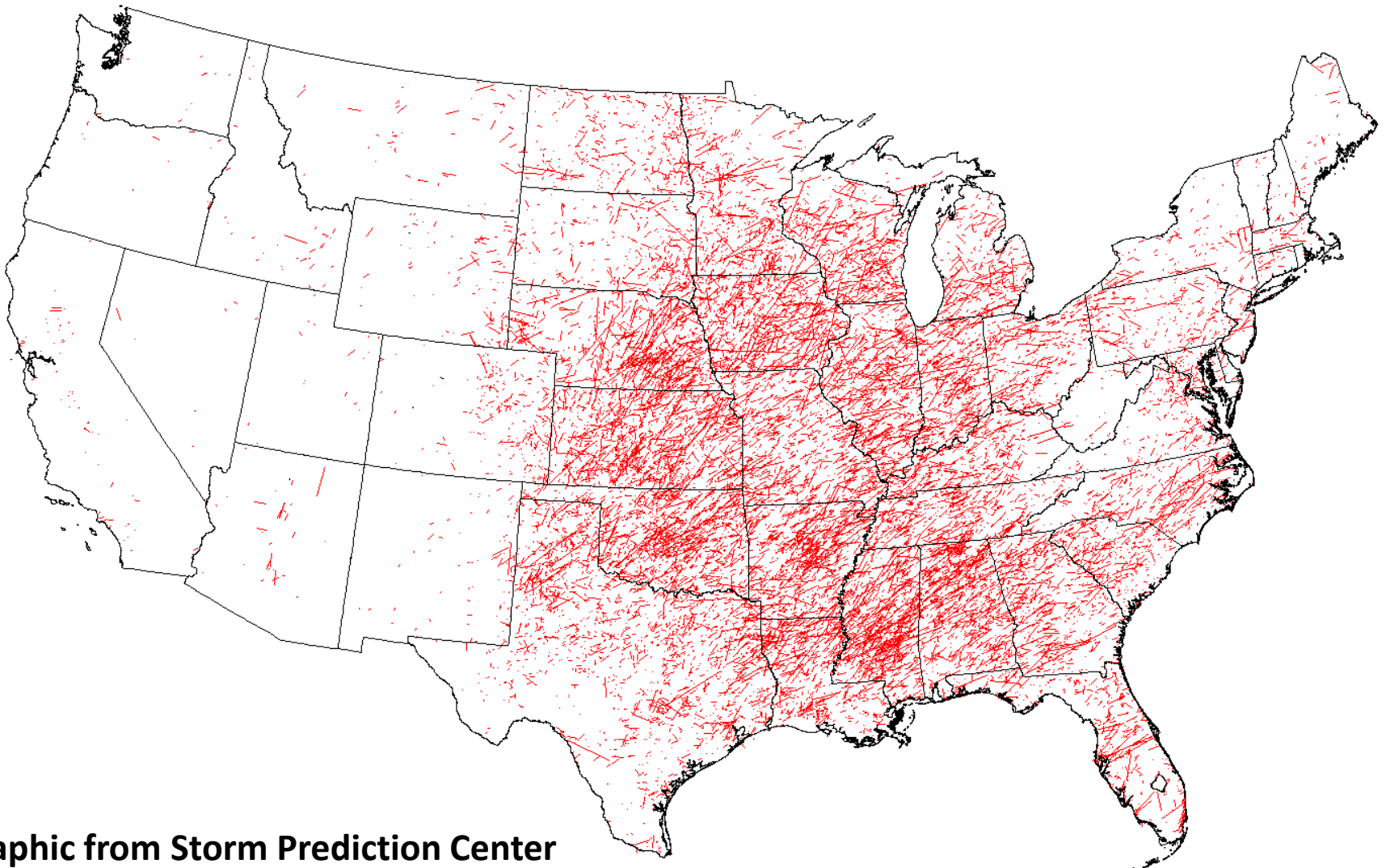
The Enhanced Fujita Scale
Tornadoes are classified by the intensity of damage it creates to objects.



Scale	MPH	Damage
E-F0	65-85	Light
E-F1	86-109	Moderate
E-F2	110-137	Considerable
E-F3	138-167	Severe
E-F4	168-199	Devastating
E-F5	>200	Incredible

Tornado

Tornado tracks 1950-2014

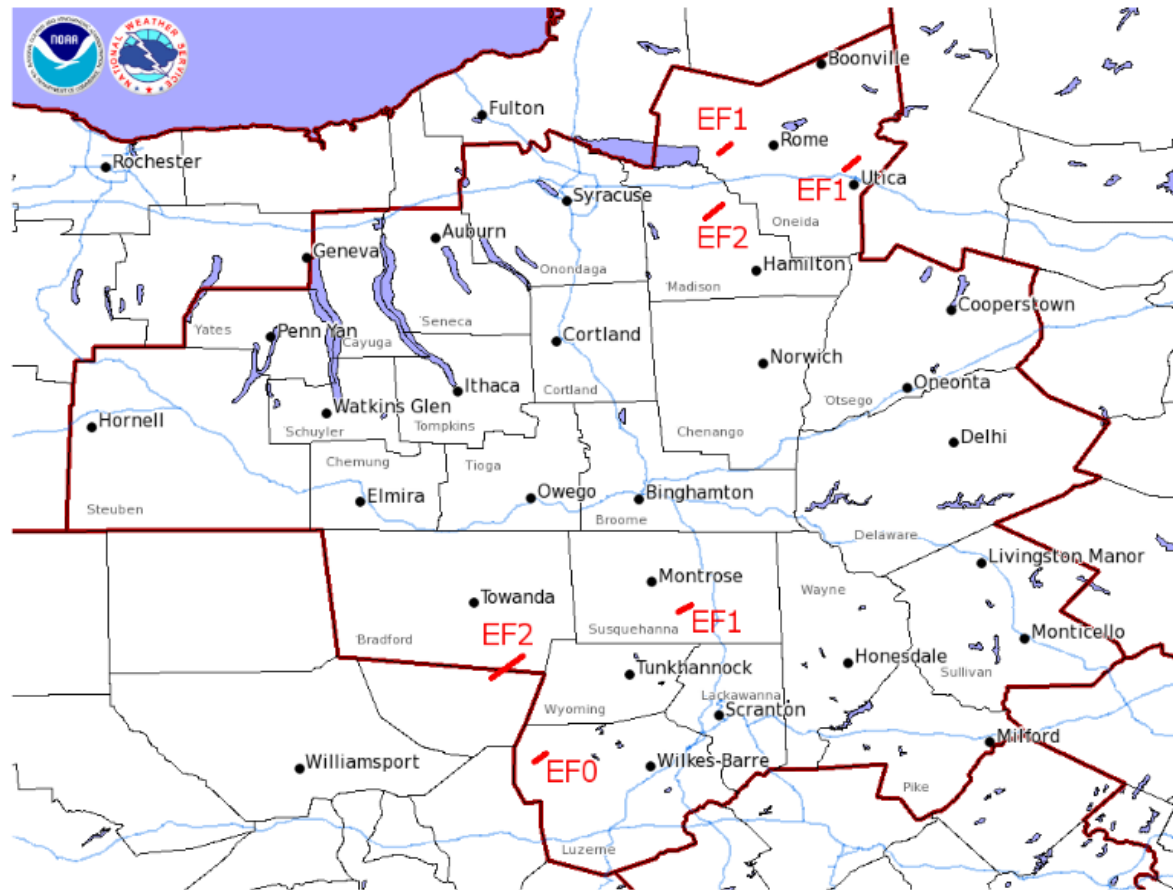


Graphic from Storm Prediction Center

Tornado

Outbreak from 2014

Tornado tracks – July 8, 2014



NY and PA Tornado Damage



Tornado Safety

Practice, Practice, Practice a tornado drill!!!!

Take Cover!!

Inside...

First choice: Basement!

Find an area of sturdy protection. Cover yourself with a sleeping bag or mattress.

Second choice: Lowest floor, center room.

Find a small room, away from windows, usually a bathroom/closet. Crouch as low as possible to the floor. Face downward cover your head with your hands.

If you are in a mobile home...

GET OUT! These are not safe. Have a plan!!!

Outside...

In a car:

Seek shelter in a sturdy building.
DO NOT hide under an overpass.

Open Outdoors:

Lie flat and face down on the ground. Protect the back of your head with your arms. Get as far away from trees and cars as you can.



Photo: NOAA

WATCH vs. WARNING

CAUTION

- **Check the forecast often**
- **Monitor the skies**
- **Know where to take shelter**

DANGER

- **Take shelter immediately!**
- **Seek further information**
- **Monitor the forecast**

Watch- "Be Prepared"

Conditions are favorable for severe weather in or near the watch area. Watches are issued for tornadoes, severe thunderstorms and flash floods.

Warning- "Take Action"

The severe weather event is imminent or occurring in the warned area. Warnings are issued for tornadoes, severe thunderstorms, flash floods and river flooding. Issued by NWS Binghamton for central New York and northeast Pennsylvania.